

MontCAS

CRT Mathematics Test Specifications

Purpose

The purpose is to develop quality items for the MontCAS, Phase 2 Criterion-Referenced Test (CRT) for grades 3 through 8 and 10 in mathematics. The mathematics assessment has eight forms for each grade. The common and field test items are developed to align with the Montana Content Standards and Montana Grade Level Expectations.

History

	Year	Grade Level	Assessment
1	2002 and 2003	3 through 8 and 10	Spring Administration of Field Tests
2	2003 and 2004	4, 8, and 10	Spring Administration of Operational Tests
3	2004 and 2005	4, 8, and 10	Spring Administration of Operational Tests
		3, 5, 6, and 7	Spring Administration of '03 Field Tests
4	2005 and 2006	3 through 8 and 10	Spring Administration of Operational Tests with 16 Forms of Field Test Items (100% release of items)
5	2006 and 2007	3 through 8 and 10	Spring Administration of Operational Tests with 16 Forms of Field Test Items (100% release of items in grades 3, 5, 6 & 7 and 50% release of items in grades 4, 8 & 10)
6	2008 through 2009	3 through 8 and 10	Spring Administration of Operational Tests with 8 Forms of Field Test Items (50% release of items in all grades)

Composition of Tests

Grade	Number of Forms	Number of Sessions	Ancillary Materials
3	8 forms	3 sessions	• reference sheet with ruler
4	8 forms	3 sessions	• reference sheet with ruler
5	8 forms	3 sessions	• reference sheet with ruler
6	8 forms	3 sessions	• reference sheet with protractor
7	8 forms	3 sessions	• reference sheet with ruler
8	8 forms	3 sessions	• reference sheet
10	8 forms	3 sessions	• reference sheet

Test Design

Session	Number of Items Grades 3 through 5			Number of Items Grades 6 through 8 and 10		
	Calculator	Common	Field Test	Calculator	Common	Field Test
1	no	18 MC 2 SA 1 CR	4 MC	no	14 MC 3 SA 1 CR	3 MC 1 SA 1 CR
2	no	19 MC 1 SA	3 MC 1 SA 1 CR	yes	21 MC	3 MC 1 CR
3	yes	18 MC 1 CR	3 MC 1 CR	yes	20 MC 1 CR	4 MC

Source of Items

The common and field test items for the assessment are developed and selected (by Montana educators) to align with the Montana Content Standards and Montana Grade Level Expectations.

Number of Items per Form

Grades	Operational	Field Test	Total
3 – 8 and 10	55 MC 3 SA 2 CR	10 MC 1 SA 2 CR	65 MC 4 SA 4 CR

Blueprint - Percent of Point Distribution by Montana Standards

Standard	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 10
1	Embedded in other standards						
2	34%	34%	32%	32%	27%	27%	20%
3	12%	12%	12%	12%	12%	12%	16%
4	15%	15%	16%	16%	18%	18%	20%
5	15%	15%	12%	12%	12%	12%	12%
6	12%	12%	15%	15%	18%	18%	20%
7	12%	12%	12%	12%	12%	12%	12%

Blueprint - Point Distribution by Montana Standards

Standard	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 10
1	Embedded in other standards						
2	22	22	21	21	18	18	13
3	8	8	8	8	8	8	11
4	10	10	11	11	12	12	13
5	10	10	8	8	8	8	8
6	8	8	10	10	12	12	13
7	8	8	8	8	8	8	8
Total	66	66	66	66	66	66	66

Reporting Categories

Standard 1	Problem Solving (throughout all other Standards)
Standard 2	Numbers and Operations
Standard 3	Algebraic Concepts
Standard 4	Geometry
Standard 5	Measurement
Standard 6	Data Analysis, Probability, and Statistics
Standard 7	Patterns, Relations, Functions

Number of Items to Develop and to Field Test

Grades	Develop	Field Test
3 – 8 and 10	85 MC 8 SA 10 CR	80 MC 8 SA 8 CR

Number of Items to Release

Grades	Release
3 – 8 and 10	25 MC 2 SA 1 CR

Schedule

May 8 and May 9Content Review..... Helena, Montana

May 7 Bias Review Helena, Montana

July 24 and July 25Test Selection Review..... Helena, Montana